NOAA Fishery Management Study

June 30, 1986

NOAA FISHERY MANAGEMENT STUDY

JUNE 30, 1986

NOAA FISHERY MANAGEMENT STUDY
EXECUTIVE SUMMARY

This Study was prepared at the request of Dr. Anthony J. Calio, the Administrator of the National Oceanic and Atmospheric Administration (NOAA). It is the product of 11 individuals knowledgeable and experienced in all aspects of fishery management, including environmental matters.

After identifying its tasks and basic convictions, the Study reviews the purposes of fishery management and assesses the system of management created by the Magnuson Fishery Conservation and Management Act (MFCMA or the Act). In spite of the accomplishments of the Act and because of the significant defects in the way the Act has operated, the Study finds that some major conceptual and operational changes are necessary.

The Study concludes that fishery management will be markedly improved by a clear separation between conservation and allocation decisions. It notes that the goal of conservation is to maintain resource productivity for future generations. Allocation relates to the needs and expectations of fishery users, and distributes the opportunity to participate in a fishery.

The Study also notes that the conservation decision, made in the form of an acceptable biological catch (ABC) determination, should be made before it is decided who the users will be. When the two processes are combined in one decision, the pressures are always to add more effort to serve the interests of more users.

The Study considers an array of institutional arrangements for conserving and allocating U.S. fishery resources ranging from a modification of the existing Council system to the use of entirely private, entirely Federal or entirely State systems. It endorses management by a partnership of State, Federal, Council and private entities.

Specifically, the Study recommends that NOAA set ABCs for regional fisheries at the national level, on the basis of the best scientific information currently available. NOAA would make full use of local and regional expertise and standard Federal rule making procedures in setting ABCs. Its final determination would become the ceiling up to which a Council could allocate in regional fisheries. Council allocations could not exceed an ABC, would be based on a redefined optimum yield, and would be the cornerstone of fishery management plans (FMPs). Council allocations in FMPs would be subject to a revised Secretarial review process.

Secretarial review would take into account only the data, views and comments which have been made a part of the official record and would be confined to the issue of consistency with the national standards and other applicable law. The Secretary's review of an FMP or amendment would have to be completed within 60 days of its official receipt by NOAA.

The Study also recommends replacing the process of gubernatorial nominations for Council membership with open nominations by any interested group or individual located within a Council's geographic area. A nine-member review board would have the authority and responsibility to consider all nominees and determine who is qualified. For each position to be filled, the review board would certify to the Secretary of Commerce the three best qualified nominees.

The Study recommends changes designed to improve interjurisdictional fishery management. These include recommendations that the Western Pacific and Caribbean Councils be eliminated and that non-tuna fisheries in those regions be managed by State, Commonwealth, and territorial governments. Further, the Federal Government should take immediate administrative action to clearly define relative Federal, State, Tribal, and local governmental authorities and responsibilities for management of interjurisdictional fisheries. Legislation is proposed to provide a basis for Federal support of research and data collection, and to establish Federal standards for coordinated management of interjurisdictional fisheries not subject to the Act.

Finally, the Study recommends that:

1. Government budgets give highest priority to the long-term, adequate funding of: research, catch and effort data collection, and enforcement.

2. Federal, State, Tribal, and university research capabilities and commitments to basic scientific studies be strengthened and focused on the long-term needs and problems of fishery management.

3. The MFCMA Section 103 exclusion for "highly migratory species" be repealed.

4. A fishing license and tonnage or other fees for all users (commercial, recreational and others) be established. The funds derived from fees would be used to improve fisheries throughout their range, including research, data collection, enforcement and habitat improvement.

5. Any impediments to limited entry in the Act be removed. Limited entry should be considered by the Councils as a management tool for both commercial and recreational fisheries, where necessary and useful.

6. Institutional barriers to full domestic utilization be eliminated. The Study defines full domestic utilization as the phasing out of foreign fishing and processing in the FCZ and the simultaneous development of the U.S. fishing industry capacity to catch, process and market FCZ resources. The Study emphasizes the U.S. primary processing industry in its analysis.

7. Councils receive and use expert advice on the enforcement of management measures they consider and that enforcement presence be improved based on a realistic accounting for cost. Further, the legal process for violations needs to be streamlined and use made of permit sanctions.

8. NOAA and the Councils develop and improve mechanisms to monitor activities that affect the habitat of fishery resources.

9. Other Government agencies cooperate with NOAA on the effects of their activities and policies on fishery management.

Certain legislative changes to enable these recommendations are included in the body of the Study and in the section on Legislative Proposals.

ACKNOWLEDGEMENT

This Study is the sole responsibility of the individual contributors. However, it would not have its present form, or be available at all in the time allowed, without a diligent staff. If the various parts speak with individual voices rather than as the work of a single author, this is due to staff's faithfulness to the contributors' words. Rough edges are a virtue when the subject matter covers such diverse interests and the purpose is to gain the most experienced and knowledgeable advice for restructuring public resource management.

For their long hours and undoubted frustrations, the contributors wish to thank Daphne White, Robin Tuttle, Ann Smith and Bruce Norman, the staff director. Special thanks are owed to Jan Charity who sacrificed several weekends to transfer our mutable prose to less mutable disks.

CONTRIBUTORS

The following individuals were asked by the NOAA Administrator to participate in this Study and submit this synthesis of their views:

William J. Hargis, Jr.
Virginia Institute of Marine Science
Study Leader

Richard J. Baker (Retired)
Mrs. Paul's Kitchens, Inc.

FitzGerald Bemiss
FitzGerald & Company

James C. Cato
University of Florida

John P. Harville (Retired)
Pacific Marine Fisheries Commission

Allen W. Haynie (Retired)
Zapata-Haynie Corp.

Henry Lyman
Salt Water Sportsman, Inc.

John A.Mehos
Liberty Marine Products

John G. Peterson (Retired)
Ocean Beauty Seafoods

Courtland L. Smith
Oregon State University

William E. Towell (Retired)
American Forestry Association

FISHERY MANAGEMENT STUDY
TABLE OF CONTENTS

NOAA FISHERY MANAGEMENT STUDY
JUNE 30, 1986

I. Preface

A. The tasks of the Fishery Management Study are:

1. Define the goals of marine fishery management.

2. Describe and evaluate institutional arrangements and management strategies to achieve these goals. Present and weigh reasonable alternatives.

3. Identify and indicate priority of various activities to implement management strategies.

4. Indicate areas of Federal, State, regional, and private responsibility and accountability.

The panel understands that it is not to be limited by existing patterns and methods, but should seek better ways through alterations to present systems or developing entirely new ones. The effort is to achieve management which is as responsible, effective, efficient, and economical as possible.

B. Basic Convictions. Development of the specific conclusions and recommendations which follow involved extensive exchange of knowledge and experience among Study contributors. In the course of these exchanges certain shared, basic convictions emerged. They underlie what follows so they should be stated:

1. Our marine fishery resource (including habitat) is of immense value to the social and economic health of our society.

2. The resource is under great and growing pressure from population, economics, and technology. Management strategies and institutions should be designed accordingly. The common property/free access approach to fisheries encourages overfishing when measured against both biological and economic standards.

3. The U.S. Government has declared an Exclusive Economic Zone (EEZ) and established a Fishery Conservation Zone (FCZ) under law. Within the FCZ, the Federal Government has responsibility to see that the resource and the habitat are wisely managed. Responsibility throughout the range of a fishery should be shared with State and regional bodies and with the private sector.

4. "Management" means the system used to conserve and allocate resources.

   - The prime aspect of management is conservation of the fish and their habitat, so that living resources can be healthy and abundant in perpetuity.

   - The second aspect of management is a fair allocation of a scientifically determined quantity of the resource among all categories of users.

5. The basic ingredient for intelligent management is reliable scientific assessments, with forecasts of stock and fishery condition. The provision of national standards to ensure a fair allocation process and a base of physical, biological and social scientific knowledge and understanding should be the Federal Government's highest priorities.

In order to focus concisely on basic concepts and recommendations, the body of the Study identifies and reviews major issues and recommendations without fully developing the extensive rationales contributing to each decision area. Appendices are referenced. These should be consulted for greater understanding of the reasoning.

II. Review of Fishery Management

A. Purposes of Fishery Management

Broadly speaking, the purposes of managing (conserving and allocating) fisheries are the following:

1. To use the resource wisely so that it remains productive in perpetuity.

2. To establish a fair system to allocate in the public interest.

3. To achieve full domestic utilization for the benefit of the consumer, those participating in the fishing industry, and the national economy.

4. To provide and maintain opportunities for recreational fishing.

5. To protect fishery habitat in the marine environment, especially estuaries and coastal wetlands.

6. To protect threatened and endangered species.

B. Assessing the Present System.

The Magnuson Fishery Conservation and Management Act (MFCMA or the Act) seeks to accomplish these purposes by establishing fishery management authority of the United States, by controlling foreign fishing within the FCZ, and by establishing a national fishery management program, including national standards, Regional Fishery Management Councils (Councils), fishery management plans (FMPs), and regulations.

A part of our task is to examine and evaluate these provisions, and to make suggestions for their improvement. A useful beginning of this process is to list the accomplishments and deficiencies in fishery management in the first decade of the Act, hoping that this will help us build on the former and correct the latter.

1. Accomplishments of the Act

a. National standards for fishery management, considering use as well as conservation, have been set.

b. Overfishing by foreign fishermen has been controlled and the trend toward full domestic utilization initiated.

c. The importance of orderly fishery management planning has been established.

d. A management structure has been provided for:

- Regionalizing the making of fishery management plans.

- Bringing Federal/regional/State/private interests together in the process.

- Involving public participation, increasing general awareness, and encouraging agreements among competing users for allocations.

e. State/Federal cooperation in regional management is rationalized, and State consistency with Federal regulations is promoted, by the principle of management throughout the range.

f. Greater economic and recreational opportunities have been provided for domestic fishermen.

g. The importance of research and scientific knowledge focused on fishery management problems, and the need for decisionmaking on the basis of the best scientific information available, have been recognized.

2. Deficiencies of Operations under the Act

a. Overfishing remains a problem in some fisheries and a threat in others.

b. The various interpretations of optimum yield have in some cases permitted allocation considerations to override conservation responsibilities.

c. Fishery information essential for effective management often has been inadequate due to:

- lack of long-term research commitments as a result of preoccupation with doing short-term analyses of regulations;

- inadequate correlation between Federal research agendas and Council management information needs;

- insufficient attention to habitat and other ecosystem relationships;

- reluctance to provide or use current information for necessary management decisions pending hoped-for improvements in reliability.

d. The procedures for developing FMPs, amendments and regulations are often cumbersome, time-consuming and vulnerable to political manipulation.

   - The system is costly and overly complex.

   - The Department of Commerce (DOC) and the Office of Management and Budget (OMB) are often inflexible and use technicalities to override Council management decisions and to delay or reject FMPs.

   - Special interests work outside the system to subvert Council decisions.

e. Council member appointments frequently reflect politics rather than solid qualifications.

f. Responsibility and authority of the Federal Government and the Councils are ambiguous and, therefore, accountability is not clear.

g. Domestic users do not contribute specifically to the cost of services provided them; statutory restrictions on fees prevent such contributions even if the Councils desired to consider them.

h. Conflicts among users are growing. Although conflict cannot be eliminated, the present system does not deal with it satisfactorily.

i. Management throughout the range remains difficult because of differing objectives and regulatory procedures among State, Federal, and other management entities.

j. Domestic catch through over-the-side sales to foreign processors has increased dramatically, but domestic processing has not increased proportionately. The total U.S. fishing industry and the U.S. economy have not realized the full value of fishery resources.

k. Insufficient long-range fishery management planning discourages investment choices by making them more uncertain.

l. Recreational fishing, which takes place mostly in State waters, is managed with varying degrees of thoroughness and, in some cases not at all.

III. Findings and Conclusions

A. Conceptual Framework

In spite of the accomplishments and because of the deficiencies noted above, the Study finds that some rethinking of the marine fishery program would be useful. Rethinking can best start with basic concepts in the hope that new opportunities for positive change will follow.

Fishery management encompasses the dual processes of conservation and allocation. The goal of conservation is to maintain resource productivity for future generations. Allocation distributes the opportunity to participate in a fishery.

Conservation is concerned with <u>how much</u> of a fish population is available for use. The maintenance of fish populations for present and future generations is a broadly held social goal. Because of broad public support for conservation and because a holistic view makes conservation easier to achieve, organizations that have the most encompassing authority are most successful. A holistic view is necessary because fish resources are dependent on such habitat characteristics as water quality and supply, water course modifications and obstructions, and competing water uses. The social priorities of these activities extend beyond narrower concerns of fishing.

Allocation involves <u>who</u> gets the opportunity to participate in the fishery. Allocation can be an active process of choosing who will participate in a fishery, or it can occur, de facto, by inaction. Allocation distributes the opportunity to catch fish among groups of users.

As the diversity of resource users increases, so does the complexity of interests. With many different users, diverse and sometimes conflicting goals have to be accommodated. Allocation requires making judgments among many objectives, while conservation is more concerned with the single objective of maintaining the resource for present and future generations.

Another characteristic distinguishing between conservation and allocation, is that how much can be used has to be determined <u>before</u> it is decided who gets what. If the resource is to be maintained, conservation decisions must precede and be unchanged by allocation decisions. When the two processes are combined in one decision, the pressures are always to add more effort to serve the interests of more users.

The effort increase may occur at the expense of long-term conservation. Thus, a tragedy of the commons occurs when individual incentives to take more fish work to the detriment of the whole.

The argument will be made that conservation and allocation are too intertwined to be separated. This is a truism of all systems. Human systems are integrated wholes. Each component influences and is influenced by each other component. Separating conservation and allocation is done for the purpose of giving priority to maintaining the resource for future generations. The central element in other models of resource maintenance programs in forestry, wildlife, water resources, and rangeland management is the fact that the conservation decision is based on resource availability. The separation also makes possible new opportunities for management organizations, particularly for the allocation aspect.

A tendency will be to bring other social and legal responsibilities into the conservation decision. For example, the allowable annual catch for a fishery that is being rebuilt can vary according to the rate of rebuilding. How fast to rebuild adds a social dimension to this conservation decision. Rapid rebuilding may require a particular user group to significantly reduce its catch. In this sense, conservation becomes allocation. The objective should be to decide on a rebuilding rate in terms of what is most practicable for the resource. Conservation will be easiest to achieve where there is broad agreement on what is best for the resource. This means: avoiding the tendency to let allocations dictate conservation, keeping the determination process focused on maintaining the resource, and developing the broadest consensus favoring conservation.

With these characteristics, conservation and allocation are two interrelated, but discretely different processes. Conservation is a how much question, while allocation is a who question. Conservation is more holistic, systemic and single valued. It requires a broad organization that represents the fullest range of societal interests. Allocation is concerned with the people who benefit from use of the resource and requires integrating more particular interests.

B. Alternative Institutional Arrangements

The separation of conservation from allocation can be accomplished in a number of ways -- some within MFCMA structure and some by new arrangements. Some new organizations have the potential for reorienting conservation and allocation incentives so that as groups of users make decisions they can see the consequences of their actions on the resource as a whole. These are discussed in Appendix B.

The Study considered a variety of arrangements ranging from modification of the existing Council system to reliance on entirely private, entirely Federal or entirely State systems. More detail on the alternatives is contained in Appendix A. The alternatives are very briefly described in the section which follows. The single entity institutions were categorized as "no Federal", or "all Federal."

1. All-Federal

a. Conservation and Allocation by a Federal Fishery Management Authority

b. Conservation and Allocation by Regional, Federally-Appointed, Regulatory Bodies

c. Conservation and Allocation by the Federal Government with Strictly Advisory Regional Councils

2. No-Federal

a. Conservation and Allocation by Coastal States

b. Conservation and Allocation by Private Sector Self-Regulation

3. Shared Management

a. Conservation and Allocation by the Existing Regional Fishery Management Councils

b. Conservation by NOAA; Allocation by the Existing Councils

c. Conservation by the Councils; Allocation by Council-Approved Private Organizations

d. Conservation and Allocation by the Existing Councils Operating as Independent Federal Agencies

e. Conservation by a "Federal Reserve Board for Fisheries"; Allocation by Some Other Organization Such as the Councils or Regional Sub-Boards

f. Conservation and Allocation by the States and the Federal Government

g. Conservation and Allocation by a Combination among State/Federal/Interstate Marine Fishery Commission Structures

The Study finds each single entity arrangement deficient for the same reason: a system which confines important, complex and multiparty conservation and allocation decisions to a single level of management cannot serve

the many resource and constituent interests which it must accommodate. An all-Federal arrangement fails to recognize a State's management of its own waters, while a no-Federal arrangement fails to recognize international and interjurisdictional fisheries.

Accordingly, the Study endorses management by a partnership of State, Federal, regional and private entities. See Appendix D for discussion of the rationale for this recommendation.

IV. Recommendations

A. Separating Conservation and Allocation

The Study finds that its preferred alternative is conservation by NOAA and allocation by the existing Councils (alternative "3.b.") with flexibility to allow Councils to use other organizations for allocation (see Appendix B). The recommendation is based on the continued use of existing institutions with better defined roles and with allowance for innovation. Implementing this recommendation requires legislative, organizational and procedural changes from current practices.

1. Legislation

To establish the separation of conservation and allocation within the MFCMA:

- Modify the national standards (Section 301) to specify the conservation and allocation aspects of management.

- Develop operational concepts to specify conservation (allowable biological catch -- ABC) and allocation (optimum yield -- OY) requirements.

- Separate the conservation decision from the allocation decision and make it as conceptually, structurally, temporally, and spatially distinct from allocation as possible.

See Section V. for the amendments to the MFCMA proposed to effect these changes.

2. Organization

The intention of the Study is a clear separation between the conservation decision and the allocation decision. The Study does not believe that these two decisions can be made by the same body and still assure the integrity of the ABC determination. It intends the latter to be scientifically determined and inviolable for the period for which it is established. Accordingly, the Study recommends that NOAA determine the ABC for each fishery at the national level and the Councils be responsible for making allocations.

In reaching the conservation determination, NOAA would make full use of local and regional expertise and normal Federal rulemaking procedures. The final rule, published in the Federal Register, would provide the ceiling within which the Councils would make allocations under FMPs. Councils would draft detailed management

measures to achieve these allocations. Allocations may not exceed the ABCs and would be subject to review by the Secretary. Licensing, reporting requirements and State/Federal enforcement would support the implementation of the FMP and safeguard the conservation decision.

B. The Fishery Management Plan Process

1. Secretarial Review of Allocation Decisions

The Secretarial review of the allocations in FMPs or amendments must be confined to the record and the documents developed by the Council in preparation of the FMP or amendment. The only public comments admissible beyond that record should be written, and be confined to the issue of consistency with the national standards and other applicable law. The problem with the current review under Section 304(a)(1)(A) is the perception that the Secretary also reviews the policy judgments of the Councils.

Review of an FMP or amendment to a plan should be completed within 60 days of the official receipt by NOAA. Failure to disapprove a plan or amendment within that 60-day review period would constitute de facto approval of that plan or amendment. The Study believes that recommendations such as restricted Secretarial review, the separation of conservation from allocation, and the revised nominations process recommended below, make any further revision to the review process itself premature. However, should these recommendations not be acted upon, the Study offers three options to the present review process to be used in steps if necessary:

- In-house review by designated senior officials.
- A Secretarially-appointed, external review board.
- A Presidentially-appointed review board independent of the Secretary.

These options are discussed in Appendix C.

2. Documentation of Disapproval

In accordance with the intent of Section 304(b)(2) of the Act, "The Secretary shall notify the Council in writing of his disapproval or partial disapproval.... Such notice shall specify--

-- the applicable law with which the plan or amendment is inconsistent;
-- the nature of such inconsistencies; and
-- recommendations concerning [appropriate remedial] actions...."

It is essential that the above advices to the Council be detailed and fully documented, not merely statements of opinion.

C. Council System

The Study has chosen not to propose changes to the MFCMA that would make the Councils legally accountable for the fishery management decisions or their resource or user consequences. However, the Study believes that the separation of conservation and allocation decisions and renewed emphasis on the limitations on Secretarial review and FMP disapproval will clarify accountability between the Councils and NOAA.

The Study finds that there is a need to improve the process of nominating Council members to assure the selection of people who are capable of making knowledgeable, equitable and representative fishery management decisions. Unfortunately, nominees have not always had the qualifications to guarantee the highest Council performance. Further, individuals do not receive adequate orientation to the task of fishery management. These factors impede Council effectiveness. The Study finds that:

- Qualifications for membership as stated in the Act are sufficient.

- Nominations for membership to a Council should be made by any interested group or individual located within the geographical area of the Council. The Governors would also be able to make nominations. Detailed biographical information would be required. A nine-member national review board with broad geographic and user representation should be named. The board would have the authority and responsibility to consider all nominees and determine who is qualified. For each position to be filled, the review board would certify to the Secretary of Commerce the three candidates who, in the judgment of the board, are the best qualified among the nominees submitted.

- Council members should take an oath of office and receive a detailed and substantive orientation to the operation of the Council and the accountability of its members before beginning their work.

- The "obligatory" seat concept should be abandoned, specifying instead that there be at least one voting member from each State in addition to the designated State official.

- No appointed member, other than the State official and the Regional Director of the National Marine Fisheries Service, should serve more than two consecutive, three-year terms.

- Each Council should include a mandatory representative of consumer interests in an advisory capacity.

D. Number of Councils

The Study finds that, with the exception of tuna, most fisheries in the Western Pacific and Caribbean are conducted within the boundaries of U.S. island States, commonwealths and territories. As a result, there are very few interjurisdictional fisheries for the Councils in these regions to manage. The Study therefore recommends that the existing Western Pacific and Caribbean Councils be eliminated and that the islands State, Commonwealth, and territorial governments manage non-tuna fisheries within jurisdictions to be determined.

The Study recommends elsewhere that the United States extend jurisdiction to highly migratory species. Because of the great abundance of tuna in the Western and Central Pacific, the Pacific islands should be included in the international, regional or other management of tuna.

E. Interjurisdictional Management

1. Why Interjurisdictional Coordination?

Under U.S. law and in accordance with Constitutional separation of powers, the sovereign States retain management control over fisheries of their inland waters and seaward boundaries, while the Federal Government controls fisheries in the EEZ. However, populations of fishes and other marine organisms range through these waters in accordance with ecological limiting factors which coincide usually not at all with man-made jurisdictional boundaries. Anadromous fishes such as salmon and striped bass may traverse waters of the EEZ, plus the coastal waters, estuaries, and river systems of a series of sovereign States in their extended migrations. Most important non-migratory marine species also are distributed through more than one political jurisdiction. In all these cases, fishermen desire to harvest their catch across jurisdictional boundaries of established political and legal importance, but of no significance to the fish.

2. Continuing Problems -- Post-MFCMA

Despite the clear Congressional intent that fish stocks be managed as units throughout their range (national standard 3), continuing problems impede achieving that goal.

- Implementation of FMPs in some cases has been inconsistent over the full range of the fishery due to lack of effective Federal-State coordination of necessary regulations and enforcement.

- Certain fisheries concentrated within State jurisdiction require coordinated management, but are not subject to MFCMA jurisdiction, thus lack a firm legal basis for coordinated interjurisdictional management (principally Atlantic Coast species such as striped bass, bluefish, and menhaden).

- Lack of clear definition of Federal and State responsibilities for shared management of shared fishery resources has materially weakened Federal and State commitments to fund and carry forward the planning, data collection, relevant research, and enforcement that are essential for coordinated management of interjurisdictional fisheries.

A Congressional Research Service (CRS) 1985 report: Interjurisdictional Fisheries Management: Issues and Options cited three major problems deriving from inadequate coordination of State and Federal fishery management:

- Uncoordinated regulations: differing size limits, gear restrictions, seasons, and area closures among adjacent jurisdictions; unsynchronized closures transferring effort from a closed area to adjacent open jurisdictions; and differing allocations to users.

- Conflicting economic goals: varying economic or social goals among jurisdictions -- e.g., commercial harvest in one, recreational in another, and subsistence only in another.

- Competing harvest goals and methods: harvesting spawning stocks in one jurisdiction may negate recruitment goals in another; over-harvest in one may force compensatory closures in another.

The Study recommends that the Federal Government take immediate administrative action to:

a. clearly define relative Federal, State, Tribal, and local governmental authorities and responsibilities for management of interjurisdictional fisheries consistent with recommendations made throughout this Study;

b. establish policies delineating responsibilities and defining the mechanisms for implementation of coordinated management among the jurisdictions concerned, including procedures and mechanisms for assuring compliance in carrying out agreed-upon management measures, and mechanisms for resolving disagreements;

c. secure commitments for long term, sustained funding and other support for scientific research, long-term catch and effort data, and enforcement;

d. legislate the basis for Federal support of the research and data collection required to carry out interjurisdictional fishery management, perhaps after the pattern of H.R. 1028, which was approved by the House of Representatives in 1985, but failed for procedural reasons to win Senate approval; and

e. establish Federal standards for coordinated management of interjurisdictional fisheries not presently subject to management under the MFCMA (i.e., fisheries requiring such coordinated management within the boundaries of the States). Legislation could take the form of an Interjurisdictional Fisheries Act as proposed in the 1985 CRS study . This legislation would somewhat parallel the Migratory Bird Treaty Act in providing Federal standards and guidelines for development of regional management plans for interjurisdictional fisheries. Within those national guidelines, the States could continue to regulate fisheries within State waters. Also per the CRS study, the legislation should include provisions for Federal preemption if the States fail to regulate their fisheries within the established standards and guidelines and an established regional management plan.

Appendix D contains a discussion of interjurisdictional relations.

F. Fishery Management Priorities

Changing management needs and decreasing government budgets require that fishery managers carefully set program priorities. The Study has reviewed the major functions of fishery management and finds that scientific research, long-term catch and effort data, and enforcement are the highest priorities.

There are other programs of lower priority which can be reduced or eliminated to make talent and money available. There appears to be opportunity for savings

which could be used for higher priority programs. Lower priorities are in the area of industry assistance. All promotional costs concerning sale of seafood and other marine resource products, and capital costs and risks should be shouldered by the private sector of the industries concerned. Funding for high priorities is also possible through license and user fees recommended elsewhere in this Study.

1. Scientific Information and Long-Term Catch and Effort Data

Research relating to fishery management is an investment which returns to the Nation annual dividends in sustained fishery yields and in improved management of publicly owned natural resources. Research, data gathering and processing capabilities cannot be turned on and off; they must be sustained through time. Appendix G describes fishery research and data needs.

Scientific information on U.S. fisheries is constantly expanding. Councils have sometimes ignored, and researchers have hesitated to provide, such information despite the fact that the Act states clearly that management must be based on the "best scientific information available." The excuse in many cases is that a research project is not yet complete. Action has been postponed awaiting "final" results. Trends and population changes, however, are often evident before studies are complete. The Study finds:

a. Scientific understanding should continue to be improved in the following areas:

   - forecasting capabilities for recruitment, catch, effort, and capacity;

   - increased research on species complexes and their ecosystem relationships;

   - augmented attention to physical and biological limiting factors on key species assemblages;

   - applications to fisheries of other relevant disciplines (e.g., oceanography, genetics, physiology, the social sciences);

   - development of more selective gear, technology and strategies to reduce fishing-related mortalities from gear and culling damage and discards which waste resources; and

   - a defined career path for scientific personnel which rewards them for good science and does not require them to become administrators.

b. Whatever scientific information is currently available should be the fundamental basis for setting ABC and, through FMPs, instituting any other management measures. Action should not be deferred in the hope that better information may be available at a later date. By then, the stocks may have been decimated.

Fishery data are often inadequate for effective management decisions due to their biological orientation and geographic and political boundary limitations. Many agencies play a role in data acquisition, which means data by fishery cannot be summed because it is limited by the fragmentation of its gathering. Organizing data only according to biological species limits knowing the patterns of fishing. Data bases need to be organized in both ways: by species and by fishery. Most fishing includes several species, and data need to be summed according to all the species fished by a particular fisherman so that the interactions between fisheries and impacts of management can be determined.

Although the Act under Section 303(d) permits gathering of catch statistics with confidentiality guaranteed, many fishermen and buyers are reluctant to give such information and often refuse to do so. Without statistics of the sort the commercial and recreational fisheries can provide, assessment of stocks is difficult. The Study finds:

c. Submission of data relevant for management is an obligation of ALL those participating in U.S. fisheries. Confidentiality provisions of the law should not be used to limit availability of data to qualified data analysts.

d. NOAA, the Councils, States, Tribes, local jurisdictions, and authorized agencies need to coordinate data gathering to create compatible data base systems that:

   - integrate data across geographic and political boundaries so that the amount of catch and effort in a fishery can be summed for each fishing unit across all the areas fished;

   - integrate data across fishing activities so that the relations between catch and effort in different fisheries can be determined.

e. In securing data, authorized agencies should be mindful of minimizing costs and disruption to the industry by making use of sampling techniques, punch cards, censuses, landing tickets and other techniques that increase the efficiency and quality of data acquisition.

f. NOAA, the Councils, States, Tribal, local jurisdictions, and authorized agencies should strengthen data collection, reporting, and analysis capabilities to assure long-term sustained production of fishery data, including (but not limited to):

- catch and effort information;
- social and economic information for determining optimum utilization;
- non-consumptive uses and values.

2. Enforcement

In certain fisheries there is said to be widespread cheating on regulations. This is, to put it plainly, stealing valuable U.S. property from law abiding fishermen, the public owners, and from the taxpayer by increasing enforcement cost and diminishing revenues from unreported income. These unlawful practices seriously undermine the fundamental objectives of conservation and fair allocation. There are a number of contributing factors, including economic pressure, perception that risk of getting caught and punished is less than the rewards of violation, the respect of peers for large catches, inadequate funding, and a lack of understanding of the value of the management regime. Whatever factors contribute to these practices, it is plain that more aggressive and effective steps must be taken to discourage them.

Enforcement measures are inadequate in the following ways:

a. Fishery management plans include regulations that are difficult and expensive to enforce.

- Councils must recognize enforcement costs of their regulations and consider more economical alternatives. For example, dockside enforcement is less expensive than at-sea enforcement, but is not practical in all cases.

- Coast Guard and NOAA enforcement experts should provide timely advice on economical and effective enforcement measures. Councils should give greater weight to such advice.

b. Funding does not allow effective enforcement presence.

- NOAA, Coast Guard, and the Councils should accelerate their cooperative effort to devise cost-effective enforcement methods, including the use of available technology.

- Accounting procedures for enforcement need to be consistent between Coast Guard and NOAA, and realistic so that fishery management costs are not inflated.

c. The lack of permits and permit sanctions on domestic fishermen.

- Federal permits should be required in every fishery and realistic permit sanctions should be applied to repeat violators and their boats.

d. Incomplete preparation of cases, inadequate penalties for violators, and cases remaining in process for too long.

- NOAA and the Coast Guard have already initiated discussions to improve the legal processes. These efforts should be accelerated and encouraged.

e. Mitigation of fines and penalties.

- Needless to say, the system cannot work if the one who has been properly tried, convicted, and fined is able through political influence, to have his penalty reduced or canceled.

G. Highly Migratory Species

The U.S. policy on the management of highly migratory species -- as reflected in the management exclusion of the MFCMA -- has had unintended and severe resource management and political repercussions. Only Japan and the United States, for example, continue to maintain that highly migratory species cannot be managed within individual extended jurisdictions. Consistent with this position, the State Department has disapproved several versions of the Atlantic billfish FMP because those plans restricted the opportunity of the Japanese to catch tunas in the U.S. FCZ. The Study recommends that the MFCMA be amended to address these problems:

- All fishing activities within the FCZ should be subject to the jurisdiction of the Councils.

- Section 103 and elsewhere in the Act where "highly migratory species" are excluded from U.S. management controls should be repealed. Nothing in this recommendation implies that the U.S. should withdraw from international bodies such as the International Commission for the Conservation of Atlantic Tunas, or should reduce pressure for effective international arrangements for management of these fisheries.

- Federal agencies not directly concerned with fishery management should cooperate fully with Council actions when implementing their own regulations and agreements.

H. Fees and Licensing for Marine Fishing

As revenues collected from foreign fleets fishing in U.S. jurisdiction decline, other sources of financing or transferring of responsibility for fishery research and management must be developed. Costs of administering the Act and of fishery management programs in general should not be confined to the Federal Government alone. The Study feels that serious attention should be given to the setting of fees which provide for all classes of users to pay a reasonable part of the cost of management. These revenues should not be used to defray the general costs of government, but be shared fairly among the Federal Government and coastal State fishery management programs.

Further, licenses create a defined population from which to sample for research purposes and can assist routine data gathering. These benefits lower data collection costs. The Study recommends:

- A fishing license and tonnage or other fees for all users (commercial and recreational fishermen, and others) should be imposed, and funds derived from such fees used to improve the fisheries throughout their range, including research, data collection, enforcement, and habitat improvement. Section 304(d) of the Act should be amended to eliminate restrictions on the collection of fees.

- Factors such as the applicant's knowledge of pertinent harvesting rules and regulations, safety, seamanship, sanitation, environmental protection, and the proper care of fish to ensure high quality may be considered in issuing a license.

- A fishery-related permit or license should not be issued to anyone who has not submitted data about fishing activities as required by Federal law.

- Licenses should be issued by each coastal State to permit fishing in State and FCZ waters, with fees derived from sales of such licenses shared equitably with the Federal Government. If a coastal State fails to implement a licensing program within a reasonable period of time, the Secretary should draw up such a program to be used until the State is in compliance.

I. Limited Entry

The key to management in many fisheries is effort control. Too many fishermen -- commercial and recreational -- are trying to catch too few fish. In addition, technological improvements increase catching efficiency. Limited entry, rights to the opportunity to fish through individual share quotas, bidding on availability of such quotas, lotteries or some other means must be implemented, whether or not this is accomplished through modification of the Act itself.

The results of open access/entry are excessive pressures on limited stocks, chronic economic instability, and severe allocation problems. Ordinary management systems and elaborate regulations (restricting gear, kind of catch, areas and seasons) have served to protect some fish stocks, but have not stopped overfishing or reduced economic inefficiency. (See Appendix I for a list of overfished and overcapitalized fisheries.)

The root of the problem is that, unlike other natural resources which belong to the United States (minerals, timber, inland game and fish) in which the user has to pay for the privilege of use, marine fish are treated as free, belonging to anyone who can catch them. This is an anachronism, because the United States has claimed an EEZ and applied very effective limited fishing privileges to foreigners. This special attitude toward fish of the sea is based on the sea's history of inexhaustibility and the historical insignificance of the fisherman's harvest. Today we have a sharply different situation. Capital and technology have, under the pressure for short term economic efficiency, combined to end the age of inexhaustibility of many stocks, and to put them at the mercy of the fishermen, both commercial and recreational. This means that the practice of free access to the living marine resources of the EEZ is obsolete for the same reason that it has been declared obsolete for the hunting of migratory waterfowl, or grazing on public lands, or, indeed, for most of the world's commercial fishing.

There is a clear need in certain fisheries to limit the access privileges of fishermen and/or vessels. There are various means of accomplishing this, including, but not limited to, the following which are elaborated in Appendix E:

- direct control of the numbers of fishermen, boats and units of gear,
- individual fishermen or boat quotas,
- economic means such as fees and taxes,
- lotteries for allocating access.

The important points are that the Councils should be encouraged to judge the need for restricting access and to choose the most practical device to suit local fisheries and their circumstances. The result should be:

- reduction of conflicts over quota and allocation -- and therefore reduction of regulations and enforcement and associated public costs;
- reduction of pressure on overfished stocks;
- an equitable means of providing for the user to contribute to the cost of conservation and management;
- greater economic stability in the fishing industry and improved competitive position for the U.S.; and
- incentive for fishermen to report important catch data which is not now being reported.

The Study recommends limited entry as a management tool for both commercial and recreational fisheries, where necessary and useful. The impediments to its use in the Act should be removed and new ones should not be enacted. Section V. contains specific legislative proposals.

J. Full Domestic Utilization

1. The Problem

Full domestic utilization is the phasing out of foreign fishing and foreign processing in the FCZ and the simultaneous development of the U.S. fishing industry capacity to catch, process and market FCZ resources. This will provide maximum overall benefit to the United States. The economic benefits will be substantially greater than at present by creating new jobs, improving the balance of trade deficit, developing a broad tax base and achieving genuine control of the resources. Operations by U.S. processors in the FCZ will assure compliance with established national social goals including human rights, safety, minimum wage, sanitation, pure food, habitat and environmental conservation. These are compelling reasons for achieving full domestic utilization.

The fish and chips policy and industry-to-industry negotiations have been very effective in the substantial development of over-the-side sales of fish, but have been ineffective in developing particular segments of the U.S. primary processing industry. Joint ventures have pitted fishermen against one another and caused divisions that inhibit full domestic utilization.

Further, a number of institutional barriers inhibit, if not prevent, development of the U.S. primary processing sector. In order to achieve full domestic utilization, those barriers must be eliminated or so altered that a true market system exists. The creation of an environment that is attractive to the business community is essential and must be achieved rapidly. Failure to do so ensures a continuation of the status quo which leaves the U.S. primary processing industry in a disadvantaged position with little opportunity to achieve the goal of full domestic utilization. The major institutional barriers that inhibit or prevent growth of the U.S. primary processing industry are:

- lack of free market access to major international markets due to unfair duties, uncertain or discriminatory product quality standards, restrictive quotas and other trade barriers;

- preferential quotas and duties for fish products caught in U.S. waters, but not processed by U.S. firms;

- unequalized social costs;

- unfair price competition in international markets;

- lack of true priority access to the resources;

- user fees are not being fairly applied to all operations; joint ventures are an example;

- restrictions imposed by certain Federal laws (Jones, Nicholson Acts);

- absence of incentives that create a favorable business environment.

2. Recommendations

To reduce or eliminate the negative impact of these barriers and to create an attractive business environment the Study recommends the following action:

a. Pursue all administrative and legislative remedies to eliminate unfair duties, restrictive quotas and trade barriers.

b. Require those foreign countries fishing or processing in the FCZ to provide free market access in their home markets for any fish products of the United States.

c. Require foreign processors operating in the U.S. economic zone to comply with all Federal and State laws and regulations relating to human rights,

safety, minimum wage, sanitation, pure food, habitat and environment. In lieu of compliance, assess the foreign processor with fees that equalize the cost of such compliance to U.S. processors.

d. Provide fishermen fishing for domestic processors preferred access to fishing grounds by time and area when establishing quota priorities.

e. Assess user fees on all operations to cover the cost of resource management.

f. Amend the Jones and Nicholson Acts and any other Federal legislation that hampers development of the fishing industry.

g. Place all joint venture operations, including those in internal waters, under the jurisdiction of the Councils.

h. Stop negotiating governing international fishing agreements with additional nations and restrict application of the basket clause (Section 201(e)(1)(E)(viii)) of the Act.

i. Induce investment in processing facilities by developing some system of allocation that provides assured supplies of raw material throughout the year.

As the inequities and deficiencies identified above are corrected, a true market system will emerge and market forces will determine the rate at which full domestic utilization will be achieved under the priorities established by MFCMA. This will provide for an orderly evolution of the domestication process and is not expected to have a negative impact on the affected sectors of the industry. These remedies are long overdue and must be applied forthwith. Further comments on these several impediments and remedies are contained in Appendix F.

K. Habitat

1. The Problem

Habitats (EEZ, estuarine, wetland, riparian, and coastal) of suitable quality are vital to continuation of productive recreational, commercial and subsistence fishery resources and are indicators of the suitability of the environment for humans. Environmental degradation weakens fishery resources. If damage is significant, fishing may be forced to cease altogether due to stock depletion. Habitat alterations may favor some species while adversely affecting others. Not all of these changes are necessarily harmful. However, when

stocks decline, for whatever reason, fishing pressure must be reduced: such reduction is the only timely management tool available.

Protection of habitats is a shared responsibility of government agencies and the general public. In most governmental organizational arrangements, control over water and air quality and coastal highlands (and often even adjacent low- or submerged lands) is not in the hands of the fishery management agencies. Other agencies, often several of them, control elements of water quality.

Environmental management responsibilities are fragmented in most States and in the Federal Government, where the Environmental Protection Agency (EPA), the Fish and Wildlife Service (FWS), the Corps of Engineers (the Corps), the Coast Guard, and NOAA, among others, are involved in the use, protection and clean-up of the aquatic environment and the air above it. Unfortunately, sister units of some of these same executive departments exploit or permit exploitation of these same waters for non-fishery and sometimes incompatible purposes. In recent years, upland land use and coastal zone development pressures make it far more difficult to protect the quality of fishery habitat. Unchecked, these activities can seriously undermine State and Federal fishery management efforts.

The Study strongly endorses the thrust and intent of the recently adopted National Marine Fisheries Service (NMFS) Habitat Conservation Policy, which emphasizes the critical need to maintain the environmental quality of habitats essential to fish at all stages in their life cycles. To implement that policy, memoranda of understanding have been negotiated successfully with four Executive departments which have significant control over the environment, i.e. EPA, the Corps, FWS and the Coast Guard. After NMFS adopted its Habitat Conservation Policy, NOAA decided to develop a NOAA Habitat Policy, now under review. Given the clear policy on the need for maintenance of habitat quality, the Study's comments and recommendations are focused on special issues.

Strategy 3 of the NMFS Habitat Conservation Policy requires incorporating habitat requirements in FMPs and involves the Councils more fully in habitat issues. The Study supports this strategy. Some Councils have mechanisms for approaching habitat issues. For example, the North Pacific Council has incorporated major habitat analysis sections into two of its plans for managing groundfish resources, and the Gulf Council has developed special mechanisms for addressing important habitat issues. (See guidance to the Habitat and Environmental Protection Advisory Panel available from the Gulf of Mexico Fishery Management Council.)

The Study recommends this kind of policy and activity to all Councils. This Study finds that each Council should coordinate habitat protection activities of fishery managers in its region so as to insure that no significant project that is potentially detrimental to fish habitats will escape the effective influence of the Council.

2. Recommendations

Therefore, the Study recommends that:

a. NOAA and the Councils should develop and improve mechanisms to monitor activities that critically affect the habitats of fish stocks. These mechanisms should include assignment of responsibility for habitat issues within each Council and means for coordination with the Regional NMFS offices. Councils should pay particular attention to the cumulative effects of alteration of fish habitats and be aware of the synergistic effects on fish stocks of activities not directly related to fishing. The habitat section of each FMP provides the basis for Council habitat activities which could include holding hearings, issuing reports, identifying research needs, and communicating habitat issues identified in preparing FMPs or which come to their attention by other means. Habitat concerns should be ranked and appropriate actions identified.

b. Working groups within the Councils should maintain liaison with relevant Federal, State, Tribal, and local agencies and citizens groups to keep abreast of habitat changes. Habitat alterations of concern are oxygen depletion, over-enrichment, chemical pollution, heavy metal contamination, non-biodegradable wastes, point and non-point sources of water-borne and air-borne pollution, erosion, damming, dredging and filling, timber harvest practices, and public works projects. These agencies should include, but not be limited to:

   - Federal: the Corps, EPA, and FWS;

   - State environmental, coastal zone management, and natural resources agencies; also land use planning and economic development agencies;

   - public environmentally-oriented citizens groups.

c. In development of FMPs and associated regulations, Councils should take into particular account the habitat impacts of fishing operations. Every effort should be taken to minimize negative habitat impacts

of fishing techniques and gears; also the habitat degradation of wastes discarded at sea, including oil discharges, plastic products, and fishing gear, which can induce significant fish mortalities through "ghost fishing."

d. The recommendations of agencies responsible for management of the fishery resource should be given greater weight in the decisionmaking. Habitat damaging actions of other agencies should be restricted, subject to over-riding authority in national emergencies or by official action from the Office of the President or from the whole Congress. Establishing greater fishery habitat priority requires action by Congress.

e. Comparable authority should be extended to State or interstate fishery management bodies by State legislatures.

f. Water quality criteria and standards for tidal fresh waters and estuaries should be strengthened to preserve the quality of environment necessary for fishery populations and species upon which they depend. Fishery-relevant water quality criteria and standards should be promulgated by EPA and appropriate State agencies for coastal waters and the EEZ.

V. Legislative Proposals

The following changes in the MFCMA are required in order to implement certain recommendations in Section IV. (Underlining indicates addition of wording, strike-through indicates deletion.)

A. National Standards (Section 301(a))

(1) Conservation ~~and management~~ measures shall prevent overfishing and may not exceed ~~while achieving, on a continuing basis, the optimum yield~~ acceptable biological catch from each fishery ~~for the United States fishing industry~~. (Revised wording of standard 1, 16 U.S.C 1851).

(2) Allocation ~~conservation and management~~ measures shall~~, where practicable,~~ promote efficiency in the optimum utilization of fishery resources~~; except that no such measure shall have economic allocation as its sole purpose~~. (Revised wording and placement of standard 5, 16 U.S.C 1851).

(3) Conservation and allocation ~~management~~ measures shall be based upon the best scientific information currently available. (Revised wording and placement of standard 2, 16 U.S.C 1851),

(4) To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination. (Revised placement of standard 3, 16 U.S.C 1851).

(5) Conservation and allocation ~~management~~ measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges. (Revised wording and placement of standard 4, 16 U.S.C 1851).

(6) Conservation and allocation ~~management~~ measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches. (Revised wording of standard 6, 16 U.S.C 1851).

(7) Conservation and allocation ~~management~~ measures shall, where practicable, minimize costs and avoid unnecessary duplication. (Revised wording of standard 7, 16 U.S.C 1851).

B. Optimum Yield (Section 3(18))

The concept of OY, as currently defined, is flawed. Although maximum sustainable yield may serve as a scientific base in some fisheries, OY has been, and still is, a widely fluctuating guideline varied to suit the eyes of the beholder or the needs of special interests. As defined in Section 3(18)B of the Act, the wording "on the basis of the maximum sustainable yield from such fishery, as modified by any relevant economic, social or ecological factor" has recently been interpreted largely in economic terms. The modifier has become the rule.

The definition of OY has to be modified to clearly separate conservation and allocation components. The allocation plan details the procedures for allocating catch so that the goals of the conservation determination are met. Conservation is based on the ABC. The OY is how the ABC is allocated for the greatest overall benefit.

1. Add to Section 3 the following definition:

The term "acceptable biological catch" (ABC) means a seasonally determined catch level which will maintain fishery resource productivity for future generations based upon the best scientific knowledge currently available, and which may vary in some years for species with fluctuating recruitment or based on a stock recovery schedule. "Catch level" should be construed to include all human removals of fish.

2. Change Section 3(18) to read:

The term "optimum," with respect to the yield from a fishery, means the amount of fish --

(A) which will provide the greatest overall benefit to the Nation, with particular reference to food production and recreational opportunities, while maintaining or enhancing the natural supply of fish;

(B) ~~which is prescribed as such on the basis of the maximum substainable yield from such fishery~~ may not exceed, but may be less than, acceptable biological catch; and

(C) ~~as modified by~~ which is allocated taking into account any relevant economic, social, or ecological factor.

C. Conservation Determination (Section 303)

Under the Contents of Fishery Management Plans, the development of a conservation determination by the Secretary is added. This is not a new function. It is

currently accomplished in the section of the FMP dealing with the status of the stocks. The ABC and any special considerations in taking this quantity of fish should be specified in the conservation determination. The conservation determination has to be made before the allocation decisions of the FMP.

1. To add the concept of a conservation determination, and the notion that Councils may use other organizations in producing FMPs, a new paragraph (1) needs to be added to Section 303(a):

SEC. 303. CONTENTS OF THE CONSERVATION DETERMINATION AND FISHERY MANAGEMENT PLANS

(a) REQUIRED PROVISIONS. -- Any fishery management plan which is prepared or approved by any Council, or by the Secretary, with respect to any fishery shall --

(1) contain (A) a conservation determination by the Secretary that shall assess and specify the present and probable future condition of, the maximum sustainable yield and the acceptable biological catch from, each such fishery, and shall include summary information utilized in making such ~~specification~~ determination, and (B) from time to time, such amendments to each such determination as are necessary;

This consolidates paragraph (3) from the contents of an FMP and makes it the basis of the conservation determination. The existing paragraph (3) is eliminated.

2. A conforming amendment may have to be added to Section 304, ACTION BY THE SECRETARY.

D. Functions of the Councils (Section 302(h))

To authorize the use of alternative allocating organizations as described in Appendix A, the first function of a Council needs to be modified. This proposed amendment also amplifies on the function of the FMP itself:

(1) prepare, or have prepared, approve and submit to the Secretary a fishery management plan with respect to each fishery within its geographical area of authority that requires conservation and management, which allocates the acceptable biological catch among users, and from time to time, such amendments to each such plan as are necessary.

E. Secretarial Review (Section 304(a))

A suggested legislative change to support the limitation on Secretarial review of FMPs would be to amend Section 304(a)(2) as follows:

(a)(2) In undertaking the review required under paragraph (1)~~(A)~~, the Secretary shall--(A) take into account only

(i) the data, views, and comments received from interested persons that have been made a part of the official record submitted by a Council with the fishery management plan or amendment to the plan under paragraph (1)(A); and

(ii) any written data, views and comments received pursuant to paragraph (1)(B), which must be on the issue of consistency with the national standards contained in Section 301, other provisions of this Act and other applicable law.

F. Fees (Section 304(d))

To allow the Secretary to set fees appropriate for each fishery, the last sentence of Section 304(d) should be deleted.

VI. Concluding Statement

The contributors to the Study appreciate being given the opportunity to suggest improvements in conserving and allocating the great fishery resource of our coastal and EEZ waters for the long-term public benefit.

While the experience and priorities of the individuals were various, contributors were united in their concern for these fragile natural resources and in their conviction that the steps they recommend are urgently needed.

The pressures on fishery resources in many instances, are severe and obviously damaging. These pressures, caused by natural variability, demands of increasing population and competing technologies for greater fishing efficiency are bound to increase.

Federal, regional and State Governments and the private sector all have a share of the task of care and wise use of marine resources. But the Federal Government has an unavoidable responsibility to lead and to see that national standards of management are met.

NMFS should be and can be a top flight, professional Service, but it must be given support for its top priority functions. Federal funding for the conservation function of the Federal fishery management program and for the Councils for their allocation function are investments in the care of a priceless, renewable resource; the job cannot be done in a piece-meal way.

Management for migratory birds, timberlands, fresh water resources and farm lands has been reasonably successful. The American public, however, has not recognized the perilous and inefficient situation in their nearby seas.

Throughout history the seas have been regarded as indestructable and its creatures as inexhaustible. It just happens that our generation is the first to be able to destroy a sea and to wipe out species of its creatures. At least as important as these remarkable abilities, is the discipline and determination to avoid doing just that, and to use our abilities for the perpetual health of resources for which we are merely passing trustees.

APPENDIX A
Alternative Institutional Arrangements

1. All-Federal Alternatives

a. Conservation and Allocation by a Single Federal Fishery Manager

The Federal Government would have management authority over all domestic and foreign fisheries in both the EEZ and State jurisdiction except internal waters. This might involve a single national fishery manager/regulator, or a regional manager who would have full decisionmaking authority to manage each fishery in whatever manner determined. The right of the affected public to present views would be preserved as would Federal enforcement and supporting research.

Pros:
- Improves accountability.
- Could provide more stable management measures.
- Reduces interjurisdictional conflicts.
- Efficient insofar as the process is less articulated, more direct.
- Reduces costs associated with Councils.
- Connection between regulation and resource variability could be more responsive.

Cons:
- Diminishes likelihood of maintaining or increasing State contributions to research and enforcement; could shift these costs to Federal Government.
- Retains obligation to finance system of public input (primarily hearings).
- Preempts State authority in coastal waters.
- Does not disengage the political process through the Congress.

b. Conservation and Allocation by Regional, Federally-Appointed, Regulatory Bodies

Regional, Federally constituted, collegial bodies would be empowered to perform all domestic conservation and allocation planning and regulatory functions in both State and Federal jurisdiction except internal waters. Such bodies would consist of Federally-appointed members. Decisions made by the regional bodies would take public and user views into account. Research functions would probably remain with NOAA, but the responsibility for enforcing regulations could be placed with the regional body. The Federal Government would continue to have responsibility for regulating foreign fishing. Variation: the members of the regulatory body could be elected.

Pros: - The regional regulatory bodies would be accountable at the local level for their management decisions.
- Could provide more stable, long term management measures.
- More protection from political interference from outside regional sphere.
- Continued public participation.
- Reduces interjurisdictional conflicts.
- Connection between regulation and resource variability more responsive.

Cons: - Diminishes likelihood of maintaining or increasing State contributions to research and enforcement.
- Users do not directly share in allocation decisions.
- Federal costs would likely increase.
- Preempts State authority in coastal waters.
- Conservation and allocation decisions are not structurally separated; they have the potential for becoming highly politicized.

c. Conservation and Allocation by the Federal Government with Strictly Advisory Regional Councils

The councils would serve in only an advisory function in relation to NOAA and would recommend preferred management approaches for each fishery. The councils would continue to gather public and constituent views. NOAA would prepare the FMPs based upon council recommendations, submit the draft plans to the councils for review and comment, and would implement the final plan by regulations. Where it is the opinion of NOAA that a given fishery should be managed in a specific manner, it would seek the reactions and recommendations of the appropriate advisory council regarding its proposal.

Pros: - Essentially the same as alternative 1.

Cons: - Essentially the same as alternative 1, except councils would add monetary and efficiency costs.

2. <u>No-Federal Alternatives</u>

a. Conservation and Management by Coastal States

Coastal States would manage domestic fisheries as they did prior to the Act, with State regulations applicable inside State waters as well as to State citizens within the EEZ. Legislation would be needed to extend the jurisdiction of each coastal State to citizens of other States who operate in the EEZ off its shores. States

would have responsibility for all research and enforcement. The Federal Government would be involved only in management and control of foreign fisheries operating in the EEZ. Variation: Empower the Interstate Marine Fisheries Commissions to manage all interstate domestic fisheries with the States providing all research and enforcement.

Pros:
- Federal role and costs would be minimized.
- Accountability would be at local level.
- Could motivate the States to work together.

Cons:
- Maximizes potential for debilitating interstate conflicts; maximizes likelihood of short term management decisions.
- The States may not be able to mount the management, research and enforcement efforts necessary to control domestic fishing in the EEZ.
- Could seriously undermine existing Federal research capabilities.
- Would make stable, long term management measures less likely.
- Would impede responsiveness to changing fishery needs.
- Lacks a mechanism for coordinated management of interstate stocks.

b. Conservation and Allocation by Private Sector Self-Regulation

A statutory system conveying property rights in shares of a fishery would be established. A Commission would control the division into shares, the transfer of rights and the adjudication of disputes. Rights could be leased, sold or assigned, according to the design. Rights could be divided into individual and corporate/cooperative categories to control concentration. The resource would be monitored under the Endangered Species and Marine Mammal Protection Acts which would continue to condition the property right. Enforcement would be through the police powers normally available to protect property rights. Variation: Preserve the open access system, but withdraw from management except to enforce the Endangered Species and Marine Mammal Protection Acts.

Pros:
- Substantially reduces the surveillance role of government enforcement.
- Accountability issue essentially disappears.
- Political interference issue essentially disappears.
- Stability issue essentially disappears.
- Allocation issues other than the initial assignment of rights becomes a matter of the market.

- Federal costs are substantially reduced.
- System is almost by definition efficient and responsive (as long as rights are transferable).

Cons:
- No guarantee that a resource would be conserved short of the threat of extinction.
- International fisheries would pose a problem.
- Property owners would face costly process to protect their rights with respect to coastal and internal waters development, multiple use and pollution issues.
- Recreational and commercial interests may still conflict.
- Threat of monopoly needs to be controlled.

3. Shared-Management Alternatives

a. Conservation and Allocation by the Existing Regional Fishery Management Councils

Separating conservation and allocation within the current Council structure could be achieved by giving the scientific and statistical committee (SSC) a greater role in making the conservation determination. If the SSC is given a greater role in developing the conservation decision, the advisory panels could receive a more substantive role in the allocation decision. The advisory panels could formulate the allocation plan. The Councils would make two separate decisions: on the acceptable biological catch (ABC), which would be published in the Federal Register, and then on the allocation. These decisions could be distinguished within a single document or be in separate documents. In either case, both decisions would be subject to Secretarial review.

Pros:
- Public participation would continue.
- Would give more status to scientific advice and more focus to its consideration.
- Would be closest to the current system of operation.

Cons:
- Conservation decision would still be subject to manipulation by the difficulties of allocation.
- Would not reduce Federal involvement and fiscal burden.
- Would not improve regulatory responsiveness to changing needs.
- Does not substantively improve accountability.

b. Conservation by NOAA; Allocation by the Existing Councils

This was the approach recommended by the Study (see p.10). Councils should take the lead to develop organizations to allocate the allowable catch as discussed in Appendix B.

c. Conservation by the Councils; Allocation by Council-Approved Private Organizations

Councils would be authorized to set ABC and approve allocation plans. Allocation plans would be prepared by associations, corporations or special organizations. The specifics of these organizations are discussed in Appendix B.

Pros: - Responsibility is with the Councils.
- Federal role and cost are lessened.
- Potential for users to realize the benefits of conservation is greater.
- Decisions are made closer to those affected.

Cons: - Experience with user allocation organizations is limited.
- Politically difficult to implement because this alternative shifts the cost from government to users. With this, however, comes greater local control.
- Regional interests may not give conservation high priority.

d. Conservation and Allocation by the Existing Councils Operating as Independent Federal Agencies

Establish the Councils as independent Federal agencies with a Washington staff and Director (appointed by the President). The Councils would prepare conservation and allocation plans for the EEZ under a vested regulatory authority. The Director would review and implement plans, interfacing directly in the implementation process with NOAA, OMB, the Environmental Protection Agency, and the Small Business Administration. Washington staff would provide overview, correct deficiencies in Councils' plans, environmental impact statements, etc. The States would continue to manage fisheries in their jurisdictions. NOAA, the Coast Guard and the States would continue their respective research and enforcement efforts. The Federal Government would continue to manage foreign fishing in the EEZ.

Pros: - The Councils could issue fishery regulations without OMB clearance.
- Accountability is clearly located with the Councils.
- States continue to share in fishery management, research and enforcement.
- Ability to make long-term conservation and allocation decisions less subject to outside political interference.
- Direct public participation would continue.

Cons: - Federal costs would likely increase.
- Regulatory burden may remain unchanged.
- No improvement in interjurisdictional conflict.
- Council/headquarters conflict could persist.

e. Conservation by a "Federal Reserve Board for Fisheries"; Allocation by Some Other Organization such as the Councils or Regional Sub-Boards

Create a board appointed by the President for long terms and with independent authority to specify the ABC in each fishery. Its decisions would be based on research and information provided by NOAA, but would not be subject to review and could be arrived at in secret with prior public input. The Reserve could have regional components analgous to Federal Reserve banks. Allocation could be done by the existing Councils or by the alternative organizations discussed in Appendix B. States would retain jurisdiction within their boundaries and enforcement and research would be a shared State/Federal responsibility. The Federal Government would continue to manage foreign fishing in the EEZ.

Pros: - Conservation and allocation decisions are made by separate bodies, best insulating and preserving the integrity of ABC determinations.
- Accountability for both conservation and allocation decisions is clearly specified.
- Federal costs could be reduced and responsibility for regulation could be shifted to the private sector.
- Federal Reserve could be independent of OMB regulatory reviews.

Cons: - The system would be completely new and entail a "learning" period.
- Public participation in the conservation decision would only be indirect and could entail sequential legal challenge.
- No improvement in interjurisdictional conflict.

f. Conservation and Allocation by the States and the Federal Government

Coastal States would manage their domestic fisheries inside three miles and the Federal Government would manage both the domestic and foreign fisheries outside three miles in the EEZ. Management would be similar to that under the Act except without the Council structure. NOAA would establish the ABC and, after public and user consultation, allocate the resource in the EEZ. The States, the Coast Guard and NOAA would continue to provide research, data collection and enforcement. Variation: Federal authority within State jurisdiction could only extend to approval of State-developed plans according to national standards.

Pros: - Would reduce Federal costs associated with Council structure.
- Would maintain historical State/Federal jurisdictions.
- Improves accountability.

Cons: - Would not provide current level of public participation.
- Would not mediate intraregional conflicts.
- Would meet resistance from vested interests.
- No mechanism for coordinated management of stocks between the EEZ and State waters.

g. Conservation and Allocation by a Combination among State/Federal/Interstate Marine Fisheries Commission Structures

Coastal States would manage their domestic fisheries inside three miles and the Federal Government would manage both the domestic and foreign fisheries in the EEZ. The regional Interstate Marine Fishery Commissions would replace the Councils in developing conservation and allocation plans, providing a forum for open public discussions and evaluations of management alternatives, and providing a mechanism for State/Federal planning for cooperative and consistent management over the entire range of the stocks.

Pros: - Relies on an existing mechanism with shared funding.
- Accountability is clearly specified.
- Reduces Federal costs associated with Councils.

Cons: - Implementation of management recommendations dependent on the political processes of the individual States and Federal Government.
- System may be super-stable, i.e. very unresponsive; efficiency is essentially unchanged.
- Less direct participation by the affected public.
- Conservation decision is still subject to manipulation for difficulties of allocation.

Appendix B
Organizational Alternatives for Allocation

Government involvement in fishery management can be reduced if users are organized to accept responsibilities formerly assumed by government. User organizations could determine rules for allocating the allowable catch, approaches for gathering data, methods of policing members, and ways for financing these activities.

The precise characteristics of organizations that can make allocation decisions are not known. However, several possible models are suggested. Separating the conservation decision from the allocation decision provides safeguards to protect the resource and provides the opportunity to experiment with different types of organizations.

A system giving conservation preeminence in decisionmaking does not by itself increase individual commitment to resource conservation. For resource users to become committed, they must collectively understand how their individual actions affect the resource as a whole. Including users in the allocations process has considerable potential for building user understanding and acceptance of management rules. Without some stake in management of the whole, users will continue to contribute to the tragedy of the commons. Organizations that take over allocation can also become more involved in solving the rules they create, thus lowering management costs.

Associations, profit-making and not-for-profit corporations, and specially created organizations have the capability for organizing users to work out allocation decisions and to prepare an allocation plan. Depending on the nature of the group of users, each organization has advantages and disadvantages. Flexibility with respect to organizational type has to be permitted.

Where user interests are diverse, the critism is made that resource users cannot also be resource managers -- users do not have the time, they will make decisions in their own self-interest, and there will be too much conflict. The attitude that people cannot manage their own affairs contributes to management conflicts and to excessive costs of management. People will act cooperatively in their own self-interest when the advantages are greater than circumventing the process.

Those managed feel alienated from the system because management is imposed upon them by an outside authority. Further, the management system promotes controversy by allowing many points in which special interest political power can be used to reverse decisions that are out of favor.

Separating conservation from allocation offers a check against these criticisms. No matter how the allocation process goes, conservation safeguards will be in place.

a. Associations

Associations establish membership on an equal participation basis. Association decisionmaking is based on voting. This decisionmaking approach works best when members are relatively homogeneous. An association will work in a fishery that has similar gear, fishing patterns, and user populations. Voting does not work, for example, where recreational and commercial interests have to be represented. The greater number of the recreational users would give them greater decisionmaking impact. The same would be true for a commercial fishery composed of trap and trawl gears.

Associations of users have successfully managed natural resources, particularly with respect to the allocation of fish resources. This occurred for a brief period in the Bay of Fundy herring fishery. Among Alaskan natives, the Alaskan Eskimo Whaling Commission, Hooper Bay Waterfowl Plan, Eskimo Walrus Commission, and International Porcupine Caribou Commission, to varying degrees, allocate resources, supplement data collection, and police members. In addition, many of these organizations participate effectively in furthering conservation goals.

Associations of users have also worked out compromises between groups and contributed to the management process on specific issues. Northwest salmon trollers and anglers negotiated a compromise on the length of the recreational salmon season and the distribution of catch. Trawl fishermen recommended timing of catch quotas to maintain their market presence.

Alaskan regional aquacultural associations integrate commercial, recreational, and subsistence fishing interests with processors and representatives of local committees. The method for integrating diverse interests is funding association activities by a landing tax in which each association member contributes according to catch. Some Alaskan regional aquaculture associations have successfully gathered data, allocated added salmon produced, and policed members.

If the association form of organization is used, it should encompass all fishing interests. The Bay of Fundy herring cooperative management system broke down because a competing group of fishermen was later formed. The members of this group were not committed to the effort control agreements of the Bay of Fundy Purse Seiners' Association.

b. Corporate Organizations

In profit-making corporations, participation is based on having an interest in shares of the organization. In this situation, quotas in numbers of fish could be purchased. For diverse populations of users, the shares could be consolidated for commercial fishermen or at the level of one or a few fish for recreational fishermen. The share could represent an opportunity to catch a particular quantity of fish or it could be an actual catch quota. Participation in the corporation would be on the basis of the share or shares owned.

Three issues are of concern with a corporate organization for allocation and conservation. Profit-maximizing decisions discriminate against user interests that are difficult to value monetarily. A second problem is that if the corporation is structured to profit from catching the resource, situations could develop where the current value of the resource is so high that the fish stock would be overfished. Finally, concentration of economic power can be a problem. Market substitutes for the fish product would provide a check on concentration, but this cannot always be assured.

Not-for-profit corporate organizations meld a diversity of user interests and create incentives to conserve the fish resource. A difficulty with not-for-profit corporations is that the user mix will not respond to market conditions as rapidly.

A not-for-profit corporate structure is preferred for making allocation decisions. This is because the not-for-profit corporate structure has as its primary goal, organizational survival. If the corporation does not satisfy the needs of its members, it will cease to exist.

Care needs to be taken to be sure the not-for-profit corporation has membership incentives that protect the resource as well as continuance of the organization. For example, if the corporation gains strength by increasing the number of members, this will be detrimental to the resource. Participation in the corporation should come from the number of fish members catch, rather than from the number of members.

c. Variation

State fishery agencies might contract for the allocation role on behalf of licensed recreational and/or commercial fisheries of the State. For example, the States of Washington, Oregon, Idaho, and California could each develop a salmon allocation plan to divide the ABC in their area among salmon anglers and commercial fishermen.

APPENDIX C
Options for the Secretarial Review Process

"In-House" Option

The Secretary would designate an office within NOAA to carry out the Secretarial review process. That office would include:

-- Three senior staff members charged as a team with responsibility for the Secretarial review would be chosen for their knowledge of the provisions of the MFCMA and other applicable law, and for their ability to make constructive judgments supportive of Council actions except in those instances of clear inconsistency with applicable law.

-- A small number (perhaps three or four, designated regionally) of support staff members whose principal role is liaison with the Councils of their designated Regions during the plan preparation process, and facilitation of the subsequent Secretarial review.

To the extent necessary to facilitate timely and efficient Secretarial reviews, the Plan Review Office could hire consultants on an as-needed basis. Alternatively, the review could be conducted by an Administrative Law Judge or Judges.

External Review Panel Options (recommended if the "in-house" alternative fails to perform as intended).

The Secretary or the President would appoint a three-to-five member "blue-ribbon" National Review Board of stature with appointments:

-- for long terms (e.g. 5-8 years); and
-- on the basis of demonstrated knowledge of the intent and content of the MFCMA and other applicable law, and the principles and goals of fishery management.

The National Review Board should receive compensation at the daily rate of GS-18 when engaged in actual duties of the Board, and reimbursement for actual expenses.

The National Review Board could be supported by a senior NOAA staff member serving as its Executive Secretary, and by other support staff as outlined for the "in-house" review process. If the Board were Presidentially appointed, it could have its own staff.

APPENDIX D
Interjurisdictional Relations

National standard 3 of the MFCMA specifies that:

> To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

This Congressional mandate mirrored the Council of State Governments' 1975 publication, To Stem the Tide, which recognized Federal responsibility for management of the fisheries beyond the limits of State jurisdiction, called for active participation in preparation of regional plans for interjurisdictional fisheries, and for conformance by the States of internal management measures with those regional plans.

The Study considered compelling the views of State fishery directors. Those Directors have met three times since 1980 in national conferences to address issues of mutual concern (1980, 1982 and 1985). State fishery agency representatives generally concur on the following:

a. Present management arrangements need improving; however, creation of a single supreme management entity is not required.

b. The Federal Government has a special unifying role in management of interjurisdictional fisheries.

c. Regional differences must be accommodated in any management system.

d. Management involves more than regulation -- highest priority for Federal-State interactions must be accorded planning; fishery data collection, analysis, and dissemination; relevant research, and enforcement.

e. A clear mandate is essential to establish Federal and State authority and responsibility for shared management, as defined above, of interjurisdictional fishery resources; that mandate should assure the long term stable funding essential for program maintenance.

Congressional leaders have expressed continuing concern over management unconformities. The lack of a clear national mandate for Federal-State coordination of management of shared fisheries has been recognized; also the importance to the national economy of fish harvests from State waters, which comprise some 65% of the commercial catch, and 90% of the recreational catch.

Federal responsibilities for management in the FCZ (EEZ), and State responsibilities within territorial waters has been reaffirmed repeatedly; also the importance of the Federal role in assuring coordinated management throughout the range of the fisheries for the benefit of the Nation as a whole. Effective Federal-State cooperation clearly is the preferred approach to this multijurisdictional management need in preference to either total Federal preemption, or Federal abdication of national responsibilities.

If this preferred Federal-State coordination cannot be achieved, the 1985 CRS Study offered three alternatives for restructuring institutional responsibilities for conservation and management of interjurisdictional fisheries:

- Enhanced State regulatory authority, presumably in exchange for greater State cooperation and coordination in interjurisdictional fishery affairs. This could extend to management of fisheries beyond State jurisdiction in the absence of a Federal regulatory regime.

- Enhanced interstate fishery commission regulatory authority through delegation of management authority by the States.

- Enhanced Federal authority through:

  -- increased preemptive authority (to the beach) under Sec. 306(b) of the MFCMA;

  -- enactment of a "Migratory Fish Act" analogous to the Migratory Bird Treaty Act, providing for Federal preemption if States fail to act;

  -- conformance of management of highly migratory and domestic species.

The Councils have been recognized as effective institutions for Federal-State coordinated planning for management of fisheries subject to MFCMA. State and Federal managers have agreed that implementation of plans could be improved, both by reducing bureaucratic impediments to their approval at Federal levels, and by more effective implementation of regulations by all concerned jurisdictions. Where needed to implement national standard 3, working committees comprised of State fisheries directors have been proposed for coordination of State regulations with those promulgated by NOAA for the FCZ.

However, no institutional management parallel to the Councils has received national sanction for fisheries not subject to MFCMA (those harvested principally in the territorial seas of adjacent States). Measures considered for these fisheries include:

- approval of management principles equivalent to the national standards under MFCMA;
- advance commitments by all concerned jurisdictions to implementation of agreed-upon management measures;
- provisions for dispute resolution;
- Federal participation as appropriate to catalyze action and share in its financial support, consistent with the national interest in wise use of these resources.

As indicated by the CRS 1985 study, Federal legislative action may be required to bring about these or other actions necessary to achieve coordinated management of interjurisdictional fisheries not presently subject to MFCMA. The clear consensus of these national conferences was, however, that whatever actions may be required must not infringe unduly upon Constitutionally established State and Federal jurisdictional prerogatives. Coordination and cooperation, not coercion or preemption, should be the objectives.

APPENDIX E
Methods of Limiting Entry

Direct Control -- Limiting the number of fishermen, vessels, size of vessels, units of gear, etc. This system sets and allocates fishing effort based on law or regulation and not by the market system. Some problems are:

- -- limiting participants but not effort; no incentive to conserve the resource,
- -- deciding who goes, who stays and who gets in later (and how),
- -- provides windfall gains (possibly) to those now in,
- -- may even result in more overcapitalization due to the ingenuity of those still fishing.

Fishermen or Boat Quotas -- Quotas are allocated to individual fishermen based on past catch or some other criterion.

- -- Quotas may (or may not) be transferable through sale. Ability to transfer allows rapid adjustment to market conditions.
- -- Fishermen adopt innnovations at an orderly rate, rather than in severe steps as when gear restrictions and other inputs are controlled by management.

Economic Means -- Uses criteria for economic performance -- optimal output, efficiency (no excess capacity), progressiveness (allows technological change), proper distribution of income (includes citizens as resource owners); stability of income, employment and prices. These are generally associated with the efficient working of the private market system. Some methods include:

- -- Charging a license fee on gear used to keep the level of fishing effort constant despite increases in price of product. Must be carefully tailored to gear type and requires considerable data about fishermen's costs and earnings. In a trap fishery, fees should be per trap, not per vessel. Fees per vessel might not control trap numbers, i.e., effort changes won't really get at utilization rate. For example, each trap might be fished more intensively. The goal would be to make the fee regulate effort to the correct number of traps to catch the biologically desired levels in an economically efficient manner.
- -- Charging a fee to reduce the level of effort to where marginal cost equals price to obtain "net economic benefit." Normally in a developed fishery

this would require a drastic reduction in effort creating all kinds of social welfare and allocation problems. Would probably require a "dislocation" or buy-back program.

-- Selling or leasing the right to fish based on the highest bidder. Might be similar to a forest or oil lease auction. Rights would be transferable. Could also involve dislocation of fishermen.

Lotteries or other similar non-economic means for allocating limited access to a commercial or recreational fishery.

APPENDIX F
Factors Impeding Full Domestic Utilization

Lack of free market access to major international markets due to duties, restrictive quotas and other trade barriers imposed on U.S. products.

The panel has agreed that free market access is the most desirable business climate. The U.S. Government, however, has failed to secure reductions in the multiple barriers that inhibit or prevent market penetration by U.S. primary processors in major world markets. For example:

a. EEC tariff rates on cod fillets imported from Iceland is 0%, from Norway 3%, from Canada 4-6% and from the U.S. 15%.

b. Japan controls the importation of surimi through import quotas and a 6.5% duty. Issuance of import quotas and import licenses are tightly controlled and generally are available to the major fishing companies, not to importers or trading companies. Japan has established pollock import quotas to 98 designated countries (of which the U.S. is one) but has a separate bilateral agreement with South Korea which provides South Korea acess to the Japanese market for surimi processed from fish harvested in the U.S. FCZ -- a market that is denied U.S. processors.

Preferential duties exist for joint venture product over U.S.-processed product in the home market of the foreign processor.

a. Salt codfish processed aboard a Portuguese flag processing vessel (using U.S. harvested fish) is assessed duty at a much lower rate than U.S. processed salt cod when entering Portugal.

b. Japanese processors using pollock delivered by U.S. fishermen to produce surimi not only have import licenses (and quotas) readily available, but the duty is assessed only on the value of the raw fish, not the added value of the finished product. This is estimated to make a difference of 5-6 cents/lb. higher cost of U.S. processed surimi.

Unequalized social costs.

American processors are required to comply with a plethora of laws and regulations which substantially increase their costs of doing business. Foreign processors operating in the U.S. FCZ are not subject to these laws and regulations, and even if they were, enforcement would be nearly impossible, which makes the

option of compliance useless. These social costs include human rights, safety, minimum wage, sanitation, pure food, habitat, environment and others. While it is a matter of U.S. policy to protect its citizenry and environment by these laws and regulations, the unintended result is to give considerable cost advantages to foreign processors operating in the U.S. economic zone.

Unfair price competition in international markets.

Foreign processors in several nations are subsidized by their home governments. Eastern European and certain Asian governments in pursuit of foreign currency, price their fisheries products well below market values. Cumulatively these practices seriously restrict U.S. access to foreign markets. Such practices must be eliminated without forbidding the use of surplus fish as a source of food when needed in the home country of the processor.

Lack of true priority access to the resources.

The current system of allocating fish has been designed to give domestic processing first priority, joint ventures second and directed foreign fishing last. The Councils wrestle with the problem of setting OY, reviewing permit applications and finally establishing quotas for the three categories. However, this practice does not establish true priority. There is no priority on the fishing grounds since all operations fish simultaneously and in the same areas. True priority should provide preference by time, area and quota, thereby providing fishermen supplying domestic processors the advantage of fishing while the catch per unit effort is at its highest level and the cost of production is lowest.

Absence of user fees on joint venture operations.

Foreigners engaged in directed fishing in the FCZ pay for that privilege by permit and tonnage fees assessed by and paid to the U.S. Government. Neither U.S. joint venture fishermen, however, who sell the catch over-the-side to foreign processor vessels, nor the foreign processors themselves pay any user fees. Foreign use of U.S. fishery resources, whether directly harvested or acquired over-the-side, should be subject to a user fee to support the cost of resource management.

Restrictions imposed by certain Federal laws.

The U.S. fish industry would benefit substantially if certain Federal laws were amended to exempt it from prohibitions and restrictions that were not designed with the fish industry in mind. It would be very beneficial if catcher-processor vessels constructed

overseas could be imported and be allowed to enjoy all the privileges and benefits of vessels constructed in the U.S. The capital cost of vessels constructed overseas is much less than those built in the U.S., and this lower investment cost would assist the U.S. industry in competing with foreign operations which enjoy a lower capital base.

Joint venture operations in internal waters not under the jurisdiction of the Councils

Control of the allocation process must rest with a single authority. In some instances internal water joint ventures have been granted even though the capacity and intent of U.S. processors had been clearly established as being capable of processing the entire harvest. This mechanism unfairly enables states to grant joint venture permits when domestic processing capacity is available a short distance away, but in a different state.

GIFAs with additional nations and the basket clause.

Additional participants are no longer needed; in fact, foreign fishing in the FCZ is in the process of being phased out. Connecting fish allocations and thereby fish supplies to outside, non-related events causes continuing uncertainty and serves no useful purpose to the fish industry. The basket clause permits the Secretary to make allocations of the total allowable level of foreign fishing based upon such other matters (not necessarily related to fisheries) as the Secretary of State deems appropriate.

Assuring supplies of raw material throughout the year.

A properly constructed system of allocation to induce investment in processing facilities would be attractive to new investors as well as the existing processing industry. It would also offer a fine opportunity for fishermen and secondary processors to enter the primary processing sector. For secondary processors such an involvement would provide a guaranteed supply of single frozen blocks; eliminate the nagging problem of often adverse exchange rates as well as remove the risk of loss of supply due to international incidents. The opportunity to deal with the common property problem of developing fisheries should be dealt with as early as possible.

APPENDIX G
Data Needs for Fishery Management

As with any business venture involving commodities, effective fishery management requires accurate, ready and reliable knowledge of the stocks being utilized and the economic and related social factors involved.

Comprehensive, clear, detailed precise (and accurate) knowledge of the biological, chemical, physical (including climatological), social and economic factors affecting the resources and the fisheries are necessary in order to:

1. Establish the need for active management of a particular biological resource and its dependent fisheries.

2. Establish suitable goals or objectives for resource and fishery management.

3. Determine the types and levels of resource and fishery management actions required to achieve those goals, and

4. Monitor and evaluate the effects and effectiveness of the various management activities undertaken.

As fishery science and management programs in U.S. estuarine and coastal areas (and more specifically to our purpose, FCZ waters) have evolved, their informational or data needs have been examined and re-examined in the light of developing knowledge and data-handling and processing capabilities.

Most fishery science texts contain thoughtful discussions of the types of data required to understand the resources and their dependent fisheries (for example see Royce 1984, Chapters 6 through 8). In addition to the often generalized treatments included in textbooks a number of authors have reviewed information requirements, data availability and adequacy in relation to specific fisheries, or fishery areas (regionally--generally in the spheres of influence of specific management entities such as the Councils) or management programs (Fishery Techniques by Larry A. Nelson and David L. Johnson, 1983). Such reviews have been especially frequent since passage of MFCMA in 1976, establishment of the FCZ and installation and evolution of the NOAA/Council system for marine fishery management (for example, Centaur Associates, Inc., 1979; Marchessault et al., 1980; the Scientific and Statistical Committee of the Mid-Atlantic Fishery Management Council, 1983; and, Hennemuth and Heyerdahl, 1984). These and other documents which involved, separately or together, considerations of the scientific as well as the social and economic informational needs have been employed in preparation of this brief report.

Though it would seem that by now (10 years after passage of MFCMA, 100+ years after fishery management began in the United States and 300+ for North Sea fisheries) all parties involved in fishery economics, fishery management, fishery science and in the various social and economic activities comprising "the fishing industry" (not a monolithic system as sometimes treated) would be persuaded of the need for accurate, detailed and precise fishery-related data: recurring debates and actions indicate otherwise. Segments of industry, especially the fishermen and lately, first buyers often seem unconvinced, as the continuing resistence to supplying essential or important information on catches, discards, effort applied, areas fished, and/or maintaining logbooks attests. Those outside of industry who would shield the fishing industry from "governmental interference" seem unconvinced also. Persistent reluctance by Councils, States and NMFS alike to require detailed and reliable accountings from industry and misapplied confidentiality rules tie the hands of scientists and managers alike and introduce more uncertainties than necessary into fishery population evaluation and management processes. Reason and sound business practice support the necessity for detailed, reliable, accurate and precise information relating to the complex biological, environmental, social and economic aspects of fisheries for effective management. Failure to recognize and act upon these truths impairs scientific understanding and management alike and damages the interest of the people and posterity. Elimination of ignorance and the barriers to securing essential data (whatever needs to be done to achieve these essential goals) are of paramount importance in the struggle to improve U.S. fishery management.

CONSIDERATIONS AND FINDINGS

While details of resources and fisheries may differ from region to region it seems likely that the data needs for the New England Regional Fishery Management Council and the neighboring Mid-Atlantic Council are reasonably representative since most types of habitats, resources and fisheries are represented in the waters of those two regions. For this reason the reports prepared by Marchessault et al. (1980) and the MAFMC S&S Committee (1983) -- especially the latter, are heavily utilized in the following observations and recommendations.

Fishery-Related Fundamental Research

Improved understandings of the interactions between important fishery species and the governing natural factors remain important targets of research. Many vital relationships among finfish or shellfish and their ecosystems are poorly understood. Inadequate knowledge

clouds our ability to determine the key environmental factors acting to increase or reduce fishery stocks. The basic population dynamics equation is Z = F +M (Z = total mortality, F = fishing mortality and M = natural mortality; obviously knowledge of all aspects of the mortality equation is important to determinations of survival, availability of "biological surplus" to the fisheries and evaluations of effects of fishing). It remains impossible to identify, isolate and, especially to quantity, the several factors causing natural mortality of most fishery organisms -- especially finfish (Hargis, 1985). Undoubtedly, natural and man-affected environmental conditions affect fishery stocks and their ability to sustain themselves and to support varying levels of harvesting pressure from commercial, recreational and subsistance fisheries.

Continued Federal funding of research related to management of the fishery resources of the EEZ <u>is required</u> since neither "the industry" (which is fragmented and with diverse interests), nor the States, nor academia (as heavily dependent upon governmental research support as universities and colleges are) are in a position to do the large-scale, long-term, interdisciplinary studies required, or to fund them. This type of "fishery-critical," basic research requires long-term commitment since the natural cycles involved span many years. Appropriate research capabilities of academia, private research organizations, industry and the States should be encouraged and integrated where possible.

<u>Fishery-Independent Information Needs</u>

Establishment of ABC, MSY, OY, or whatever overall available catch or allowable quota system may be employed, requires ready availability of precise and preferably accurate population or stock assessments. These, in turn, are dependent upon sufficient long-term, qualitative and quantitative biological and environmental survey data which allow a <u>fishery-independent</u> critical evaluation of (1) status and trends in important stocks, (2) some of the important factors affecting those stocks, and (3) the significance and accuracy of estimates derived from fishery-independent data acquired from the several fisheries. Such regular surveys are also essential to the acquisition of much of the basic species and ecosystem information required for the "fishery-related fundamental" information referred to above.

<u>Fishery-Dependent Information Requirements</u>

The mainstay of a continuing and developing understanding of the resources and the fisheries themselves, total mortality, and natural mortality

is the information derived from observing "the fisheries" -- fishery-dependent data, especially fishing mortality and other important biological parameters such as age, growth and sex of components of the catch. Until the "fundamental research" and the biological survey activities described above provide otherwise this limiting situation will persist. Fishing mortality will always be an important factor in population dynamics.

Certain types of social and economic data must be acquired by regular canvass of "the industry". Research to answer special economic and sociological questions, and to check the validity and significance of data obtained from and supplied by industry, is important and must be especially designed and prosecuted. Social and economic research vital to effective management of the people's fishery resources and to assuring maximum gain to them should be coordinated by NOAA and the Councils. Where Council-specific information is required the Councils should specify needed social, economic and biological studies.

Especially unfortunate are such deficiences as: (1) continuing resistance to logbooks and to accountability by some segments of harvesting industry, (2) the fact that the critical catch per unit of effort (CPUE) is not as precise or accurate as it should be, (3) inadequacies of associated biological sampling from catches and at sea (i.e. such sampling usually must be done "on-the-run" by port and at sea samplers on a not-to-interfere basis), (4) discards and discard characteristics are severely underreported, and (5) severe shortages in the prosecution of sea sampling and monitoring of catches at sea made by domestic vessels. (We have much better fishery statistics from foreign vessels operating in the FCZ than from domestic ones even though domestic vessels take increasing percentages of the total catches and many FCZ stocks show signs of overfishing). It is realized that certain sociological and economic factors affect availability of certain fishery-dependent statistics, but they must be dealt with and overcome. Information from the domestic fisheries must be improved if the FCZ and interjurisdictional resources and fisheries are to be effectively managed.

Recreational Fishery Data

Persistent and significant weaknesses prevail in our knowledge of the effects of the recreational fisheries upon the resources. Though recent Federally and State-sponsored polls of recreational fishermen and women, surveys of various types and creel-census programs have improved our understanding of the recreational harvest and associated biological and

social and economic phenomena, knowledge remains inadequate. Recreational harvests account for a large and increasing percentage of available stocks from many species. This lack of information is serious and must be eliminated if management to the ever-closer tolerances required to allow maximum harvests for both commercial and recreational users is to enable involved species to survive.

Phone and canvas surveys now underway should be augmented and, more importantly verified by independent means to develop indices and statistically-sound bases for evaluating the results of such phone and canvas suveys. Precise and accurate recreational catch data should be acquired and made available from all estuarine and marine areas with significant recreational fisheries on an annual basis, not merely every 3, 5 or 10 years. As the MAFMC S&S Committee (1983) concluded, knowledge of "recreational fishing effort by species are inadequate. A program is needed to obtain effort indices through specialized logbooks or modified survey efforts." Further, the lack of knowledge on the age composition of recreational catches should be acquired on a regular basis and made available to stock assessment personnel, to S&S committee members and to Council staffs.

Necessary fishery statistics would be more comprehensive and easier to obtain were licenses or permits required of all estuarine, coastal and FCZ commercial and recreational fishermen, fishing vessels and charter vessels. Charging for licenses or permits would provide monies to help pay for the "fundamental" research, surveys, port and field sampling activities and other research and management activities connected with understanding, managing and monitoring important recreational fisheries.

Social and Economic Data

The weakest of all fishery-relevant information is that related to the economic and social aspects of the several segments of the recreational and commercial fishing industries associated (directly and indirectly) with FCZ fisheries. Valid, accurate and precise economic data are required to allow establishment of allocations of resources between commercial and recreational users (MAFMC, S&S Comm., 1983).

After a careful review by its several biologists, economists, sociologists and statisticians the MAFMC, S&S Committee report (1983) clearly stated the vital nature of economic data to development and implementation of FMPs and pointed out that "the most basic economic data are lacking for a majority of fisheries." More specifically, it indicated that

"commercial vessel cost data, processing capacity, market and employment data are needed to meet MAFMC and related statutory requirements and to measure social and economic impacts of regulations." The data-gathering system should be modified to secure such information on a voluntary basis (verified, of course) if possible, mandatory if necessary.

Data Availability and Compliance

Questions of willingness and cooperativeness of industry in supplying critical catch effort, biological, and social and economic data or sampling arise frequently. Data are essential to sound, close-tolerance management and to making allocations of "the peoples" natural resources! They must be obtained regardless of contrary pressures! The same may be said for compliance to fishery regulations. Management always works best if those managed are fully-informed and act as willing participants and all recreational and commercial fishery management programs should be so oriented that education, regular interactions, compliance and even cooperation is secured. FCZ resources ultimately belong to "the people" and their posterity and not merely to the individuals who capture and take possession of them. Access to FCZ fishery resources is a privilege granted by the government on behalf of its people and so it should be considered. In return for that privilege it should be incumbent upon users to provide public scientists and managers the data necessary to (1) assure continuity of the resources, (2) make allocations in the national best interest, and (3) assure compliance with the management measures necessary to achieve these goals. Consequently, compliance with official data-gathering efforts should be required of all participants! Continuation of access and the right to fish should be one reward of compliance. Penalties for non-compliance should be certain, swift and uniform. The privilege of continued fishing should be withheld for non-compliance, among other possible measures.

Confidentiality

Historically it has been deemed necessary to promise confidentiality of data relating to the commercial fisheries to obtain the, often reluctant, cooperation of those holding such data. Reasons have been several, including, (1) the laissez-faire or traditional approach to ownership and rights to the common property fishery resources, (2) the quite normal desire of business to withhold information from competitors, (3) the desire of businesses and individuals to withhold key information from regulators, and (4) the desire of all to avoid accountability for regulation or taxation. Consequent arrangements for confidentiality of "proprietary" data

have been made in law and practice at Federal and State levels. The advent of the MFCMA saw confidentiality arrangements result in withholding of unaggregated data from Councils. Privilege of confidentiality has also been extended to foreign fishing efforts and joint venture operations where the companies involved would be recognized from the data.

Under some circumstances, confidentiality has effectively prevented objective evaluation of fishery catch and effort, and social and economic data by NMFS and the Councils, interfered with FMP development, impaired regulation, and damaged abilities to evaluate the effectiveness of management efforts. Coupled with the withholding and/or "jiggering" of fishery statistics (Pierce and Hughes, 1979), confidentiality, while designed as a protection to proprietary information, has sometimes been an impediment to effective management. The MAFMC S&S Committee has made recommendations in this regard.

Confidentiality has also led to a debate by NMFS data managers whether vessel identifiers already obtained should be irretrievably erased from the data banks. Notwithstanding that magnitudes of catches and identity of catchers are frequently common fleet or waterfront information such action clearly impairs "the publics" representative's rights to know what is being taken from the commons and by whom, and could hamper legitimate research purposes. While even the appearance of a conflict of interest should be guarded against, fishery management data bases must be maintained at the lowest level of detail at which it is collected and be available to qualified data analysts.

Contracting for Research, Survey and Statistical Services

From time-to-time consideration has been given to possibilities of purchasing these research and data services by contracting with private industry, private research organization, State agencies or academia. Such considerations involve more than the normal project or programmatic "outside" research projects typical of those contracted for by NMFS or the Councils at this time but call for contracting out for all research and statistical services. It may be possible to do so, but careful consideration must be given to the absolute requirement for: (1) responsiveness to the continuing need for precise and increasingly accurate fishery-related "basic or fundamental" research; (2) long-term commitment and continuity (natural phenomena undergo long-term alterations and cyclic changes which extend often over decades or longer); (3) careful adherence to federally-controlled research, survey and statistical protocols and specifications;

(4) flexibility to respond to additions, alterations or changes in projects and programs; (5) responsiveness to data needs of the central quota-setting and regulatory control body(ies) and to those of the Councils; (6) flexibility to accept quality control examiners and examinations at any time; (7) flexibility to accommodate extra projects, scientists and technicians as the need and opportunity for cooperation with academia, other research institutions and industry arises; and (8) the ability to avoid conflict with other businesses and to eschew and avoid disclosure of competitively useful data for financial advantage. Further, such contractural arrangements must be responsive to the needs of the population assessment, environmental, and ecosystem research programs which NOAA must continue to carry out and sufficiently flexible to mesh with programs of the States and of academia and they must be equal or better in timeliness, responsiveness quality and cost to those obtained through use of Federal research institutions. And the results must be available to all users on an equal basis since other legitimate users are now served by NMFS research centers.

Given these requirements we are highly skeptical that any non-governmental profit-oriented group can provide such services.

Whether this assessment is proven correct or not by experience, a sound system of fundamental, fishery-related research; biological and fishery surveys; and, industry-related fishery statistics and biological sampling programs is essential to sound and effective management of the commerically and recreationally important fishery resources of the FCZ and interjurisdictional waters and must be maintained, provided and/or supervised by Federal authority, working with other appropriate Federal agencies and with private research institutions, State agencies, industry organizations and academia. Continuous funding is vital regardless of the source. Sources of funding have been identified in the body of the Study.

APPENDIX H

Sections of Magnuson Act Affected

1. Optimum yield
   Sec. 3 (18) Definition
   Sec. 201(d)(2)(A) Determination of TALFF
   Sec. 303(a)(3) Required provision, FMP: assess and specify
   Sec. 302(h)(f) Council function: review and revise

2. Highly migratory species
   Sec. 3 (14) Definition
   Sec. 103 Exclusion from management

3. Foreign fishing
   Determination of TALFF: Sec. 201(d)(2)(A)
   Criteria for determining allocation: Sec. 201(e)(1)(E)
   Reciprocity: Sec. 201(g)
   Fees: Sec. 204(b)(10)
   Foreign fish processing in internal waters: Sec. 306(c)

4. National standards
   Sec. 301(a)(1) Standard 1. 50 CFR 602.11
   Sec. 301(a)(2) Standard 2. 50 CFR 602.12
   Sec. 301(a)(3) Standard 3. 50 CFR 602.13
   Sec. 301(a)(4) Standard 4. 50 CFR 602.14
   Sec. 301(a)(5) Standard 5. 50 CFR 602.15
   Sec. 301(a)(6) Standard 6. 50 CFR 602.16
   Sec. 301(a)(7) Standard 7. 50 CFR 602.17

5. Councils
   Number and size: Sec. 302(a)
   Voting members: Sec. 302(b)(1)(A) and (B)
   Qualifications: Sec. 302(b)(2)(A)
   Nominating procedure: Sec. 302(b)(2)(B)
   Non-voting members: Sec. 302(c)(1)
   Compensation: Sec. 302(d)
   Committees and panels: Sec. 302(g)
   Functions: Sec. 302(h)

6. Contents of FMPs
   Required provisions
   - management measures consistent with national standards, other provision of Act, and any other applicable law: Sec. 303(a)(1)(C)
   - assess/specify MSY, OY: Sec. 303(a)(3)
   - assess/specify capacity & extent of U.S. harvest, & capacity & extent U.S. processors will process U.S. harvest: Sec. 303(a)(4)
   - specification of pertinent data: Sec. 303(a)(5)

6. Contents of FMPs (cont.)
   Discretionary provisions
   - permits and fees: Sec. 303(b)(1)
   - state regulations: Sec. 303(b)(5)
   -limited access: Sec. 303(b)(6)

7. Data collection and research
   Confidentiality of statistics: Sec. 303(d)
   Data collection programs: Sec. 303(e)
   Fisheries research: Sec. 304(e)

8. Action by Secretary
   Review: Sec. 304(a)
   Fees: Sec. 304(d)
   Research: Sec. 304(e)

9. Implementation
   Promulgate regulations: Sec. 305(c) and (g)
   Judicial review: Sec. 305(d)
   Emergency actions: Sec. 305(e)
   Effect of certain laws: Sec. 305(h)

10. State jurisdiction
    Preemption: Sec. 306(b)
    Foreign fish processing in internal waters: Sec. 306(c)

11. Enforcement
    Prohibited acts: Sec. 307
    Responsibility: Sec. 311(a)

12. Role of courts
    Judicial review: Sec. 305(d)
    Jurisdiction: Sec. 311(d)

APPENDIX I

REPRESENTATIVE LIST OF
STOCKS UNDER MANAGEMENT CURRENTLY ESTIMATED TO BE
DEPRESSED, OVERFISHED, AND/OR OVERCAPITALIZED
June 1986

Overfishing, as defined by NOAA under the Magnuson Act's National Standard 1, is a level of fishing mortality that jeopardizes the capacity of a stock(s) to recover to a level at which it can produce maximum biological yield or economic value on a long-term basis under prevailing biological and environmental conditions. It is a relative term; it cannot be defined in isolation from its biological, economic, social, or ecological consequences, nor from its relationship to given management objectives. Significant adverse alterations in the environment resulting in stock declines increase the possibility of overfishing inadvertently. Decisions about the allowable level of fishing mortality (ABC) will vary according to the conditions of the fishery and the amount of risk associated with different harvest rates.

Fishing can produce a variety of effects on local and areawide abundance, availability, size, and composition of a stock. Some of these effects have been called "overfishing" (e.g., growth, localized, or pulse overfishing; these may be prevented or permitted under the Magnuson Act.) It must be understood that NOAA's Standard 1 definition of overfishing (above) responds primarily to the Act's mandate to avoid "irreversible damage" as indicated in its legislative history, and that it does not necessarily apply to the list of "overfished" species listed here. That is, this list includes stocks that are currently considered depressed, but not necessarily overfished under the strict Standard 1 definition. It includes stocks that are subject, for the time being, to fishing levels that prevent the stock from recovering to maximum biological yield or economic value, but which could, with appropriate management measures, be returned to that capability. These categorizations are subject to change in response to all the biological, economic, social, and ecological variables existing at any given time within the fishery.

Overcapitalization is an overcapacity concept, i.e., more vessel and processing capability is brought to bear in a fishery than is required to take the allowable harvest. Like the definition for overfishing, the definition for overcapitalization is subject to certain real-time variables which must be considered in making the determination. These include such elements as the relative stock size of a species or group of species targeted, the profitability or return on investment within a given cost/price relationship (when available), and the array of gear actually applied in the fishery under consideration.

This list is valid only for the time when the decision to categorize was made. No long-range use should be made of it.

Appendix I (cont.)

Geographic Area	Overfished *	Overcapitalized
New England	haddock, yellowtail flounder, redfish, sea scallops, striped bass, American lobster, swordfish	Atlantic demersal finfish, sea scallops, American lobster, swordfish
Mid Atlantic	swordfish, scallops	swordfish, scallops, surf clams
South Atlantic	Spanish mackerel swordfish	Atlantic shrimp, swordfish
Gulf of Mexico	Spanish mackerel, king mackerel, Gulf of Mexico reeffish (notably red snapper), swordfish	spiny lobster, shrimp, stone crab, swordfish
Caribbean	shallow water reeffish	swordfish
Pacific	chinook and coho salmon (selected stocks), Pacific ocean perch	chinook and coho salmon, Pacific halibut, groundfish (except Pacific whiting)
North Pacific		sablefish, Pacific halibut high seas salmon, king and Tanner crab
Western Pacific	seamount groundfish	bottomfish, lobster

* Includes stocks that are depressed, but not necessarily "overfished" as defined by NOAA under National Standard 1 of the Magnuson Act.

Sources: National Marine Fisheries Service, Regional Fishery Management Councils, June 1986.